Original Lectures.

CLINICAL LECTURES ON THE PUERPERAL DISEASES.

DELIVERED AT THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

By B. FORDYCE BARKER, M.D.,

PROFESSOR OF MIDWIFERY AND DISEASES OF WOMEN, ETC., ETC.

LECTURE III.—PART I.

ON INFLAMMATION OF THE BREASTS AND MAMMARY ABSCESS.

GENTLEMEN:—I call your attention to-day to a class of affections, the importance of which can hardly be exaggerated. Inflammation of the breasts and mammary abscess are more liable to be developed during the first four weeks after confinement than at any other period, but it may occur at any time during lactation or gestation. It sometimes, although much more rarely, is met with entirely unconnected with either of these states, as I have seen in the young girl, and even in the new-born infant of *both* sexes, and this, too, where I had no reason to believe that the breasts had been maltreated by an ignorant or prejudiced nurse, from the absurd belief that the milk in the breasts of the infant must be squeezed out. When inflammation of the breasts and mammary abscess occurs during the puerperal state it is always a deplorable, and sometimes a very grave and dangerous complication, as not unfrequently there are a succession of abscesses which not only interrupts, but may permanently destroy the functions of the organ; the spirits of the patient are broken, the strength of mind shaken, and the general system is exhausted, and for a time seriously impaired. You should also know the fact that such cases sometimes terminate fatally, even when under the treatment of the first talent, and those of the largest experience in the profession, as for example:—Velpeau gives a resumé of two hundred cases, which occurred in his service, three of which died, one hundred and thirty-nine were cured, in twenty-eight the cure was incomplete, and the results in the remainder of the cases were unknown. The reputation of the medical attendant under such circumstances is also seriously jeopardized, as the popular belief is, that such a train of consequences must be due either to neglect or mismanagement on the part of the monthly nurse, or the doctor. So general is this belief, that monthly nurses are almost as ready to admit that they have committed fornication, as to acknowledge that any woman that they have taken care of has had a "broken breast." And we see the influence of such a belief on the profession in the statements which now and then appear in the medical press, that inflammation may be arrested, and abscess prevented, by rubbing the breasts, or by the use of belladonna, or by some other special local treatment.

Now all such statements are worse than nonsense, for they are sure to mislead and grievously disappoint those who place any reliance upon them. Whenever you meet with such statements you may be sure that they emanate from those of little clinical experience, who have deduced general principles from a very limited number of observations. The special literature on this subject is unusually rich, as, in addition to all you find in your obstetrical and surgical text books, Sir Astley Cooper, the most distinguished and brilliant of modern English surgeons, has written a treatise on the diseases of the breasts, which will long be a classical authority. Velpeau, who holds a corresponding rank among the living surgeons of France, has published, a few years since, a volume of more than seven hundred pages on this subject, which ought before this to have received an English translation. During the past year a paper on Mammitis, with an analysis of seventy-two cases, was read by Mr. T. W. Nunn, Surgeon to the Middlesex Hospital, before the Obstetrical Society of London. Important contributions on this subject may be found scattered through the medical periodicals of this country and of Europe. I may particularly mention some articles which have appeared in our own journals, as in the *New York Journal of Medicine*—one by Dr. Conant Foster, formerly Physician to this Hospital; a Report of fourteen cases, by Dr. John G. Johnson, formerly House Surgeon to this Hospital; and in the *American Medical Monthly*, a valuable Essay, by my colleague, Dr. Thomas. I give you the principal literature of the subject, because, if any of you should have a perplexing and tedious case of this kind, as may very likely happen to you soon after commencing practice, if you feel the right kind of interest in your cases, and are animated by a true medical spirit, you will be anxious to search out all that is known on it. I fear also that you will find that the appropriate treatment adapted to each special indication, and to each special case, is still left somewhat vague and uncertain. In a clinical lecture you can only anticipate a discussion of the pathology and therapeutics of the subject, and from the opportunities that I have had to study it practically, both in hospital and private practice, I shall aim to give you, not a recapitulation of what you can read better in the authorities I have before mentioned, but to supply, however imperfectly, a want of definite principle and rule for practice, which I am sure has often been felt.

Causes of Mammitis.—Lactation is by far the most frequent of the predisposing causes. Thus, of Mr. Nunn's seventy-two cases, fifty-eight occurred during lactation, seven during pregnancy, and seven in women neither pregnant nor lactating. Of the fifty-eight lactating cases fifty-seven per cent. occurred during the first two months of lactation; during the subsequent seven months, only fourteen per cent.; but after the ninth month, twenty-nine per cent. You thus see that over-lactation is also a predisposing cause. *Epidemic influence* should also be mentioned as a predisposing cause, just as some years we see an epidemic tendency to boils and carbuncles. This was particularly manifest in the fall and winter of 1859–60, in this city; and, as I learn from the statements of physicians, it was equally so in other parts of the State, and in New England. When I came on duty in this hospital, in October, 1859, there were fourteen cases of mammary abscess in the wards. During my service there were sixteen additional cases, while three-fourths of all confined here exhibited more or less tendency to inflammation of the breasts. During my service this winter I have had the opportunity of showing you but two cases, and those I found here, when my service began. I am not aware that any author has mentioned epidemic influence as a predisposing cause, but you see from the facts that I have just mentioned that it really is so. If you look at Velpeau's cases you will see that he had twenty-four in 1837, and but four in 1839. The principal exciting causes are:—Exposure to cold; moving the arms too much, while the breasts are large and distended; repressing the secretion of milk at an early period; obstructed lacteal ducts; bruises, and other external injuries; and emotional—as mental disturbances, fright, etc. The influence of the latter, although frequently overlooked, has been particularly noticed by many authors, and is another illustration of the great importance to the physician, of a thorough appreciation of what is called the morale of his patients.

Pathology.—Inflammation of the breasts may occur in three situations: first, in the subcutaneous areolar tissue; second, in the gland itself; and third, in the areolar tissue between the gland and the thoracic walls; and as this inflammation frequently, some authors say generally, goes on to suppuration, we have three kinds of mammary abscess, viz., the *subcutaneous*, the *glandular*, and the *subglandular*. Different terms have been used by authors to describe these forms of abscess, but those I have used seem to me the most simple and significant. The inflammation is described by Sir Astley Cooper, and no one since has given a better

description, as adhesive in the first stage, suppurative in the second, and ulcerative in the third. In fact, the same laws govern inflammation of these tissues of the breasts as govern inflammation of the same tissues in other parts of the system, modified only by certain peculiarities of anatomical arrangement of structure. In the first stage these laws are precisely the same. In the suppurative stage they are the same, when the inflammation is confined to the subcutaneous areolar tissue: it is a simple phlegmonous inflammation, differing in no way from abscesses of this kind in other situations, except that it is always distinctly circumscribed. The third stage of this form of mammary abscess is also like the same stage in other phlegmonous abscesses, as it opens by ulcerating the tissues from the interior to the exterior; unless for the purpose of curing it more speedily an artificial opening be made by means of the lancet or bistoury.

In the glandular variety one lobule after another may become inflamed, so that a succession of abscesses form in different parts of the gland. In the subglandular, the pus usually at first finds an exit at the lower and outer side of the gland, but generally it also appears later at other points of the circumference. The apertures through which the pus discharges itself frequently degenerate into fistulous canals, which are often very difficult to cure. Here we have some of the modifications due to peculiarity of arrangement of the anatomical structure. If you look over the published reports of the cases by the authors that I have before mentioned, you will find very many in which the succession of abscesses and number of apertures for the discharge of pus counts up to ten, twenty, thirty, and in one of Velpeau's cases, even to forty-five in the same breast. You can readily conceive how such a train of events will wear out the system, and break down both body and mind. But these are not all of the conditions which may contribute to such a result. The ulcerative process is generally gradual and of a normal kind, that is, preceded by a fibrinous exudation, which protects the adjacent tissues; but not unfrequently in the glandular, and especially the subglandular forms, there is a destructive disorganization of texture, resulting in more or less extensive sloughs. The percentage of such cases is by no means small. The extent of the slough is of course proportionate to the destruction of tissue. In one of the cases reported by Dr. Foster the slough is described as being as large as a hen's egg. But this is not all, the destructive ulcerative process may involve the bloodvessels of the part where the abscess is situated, and dangerous and even fatal hæmorrhages may result. Prof. Miller, of Edinburgh, in his Principles of Surgery, refers to thirteen such cases which have been published in different medical periodicals, and he asserts that there are others. You see that I have been compelled in the discussion of this subject to encroach somewhat upon the chair of the Principles of Surgery, but it was necessary, in order that you should fully understand it, and perhaps, also, for your future protection from ignorance or malice; for it may happen to you, as has happened to others, destructive ulceration having followed milk abscess to such an extent as to produce repeated and protracted hemorrhage, that you should be accused of cutting an artery in opening an abscess, and hence be held responsible for the recurrent hemorrhages, which persist for weeks in consequence of the continued ulcerative process, in spite of the most judicious and best directed local and constitutional means to arrest the process. While our profession, as a whole, is characterized by high-toned principle, there are some few, very few I believe, dishonorable men in it who are capable of any meanness.

Diagnosis.—While it is of great importance, with reference to the prognosis and treatment, that an accurate diagnosis should be made as to the form of mammitis that we have to encounter, it must not be forgotten that any two or all three varieties may be met with, or one variety may be primitive, and one or both of the others may be secondary. Subcutaneous mammitis presents only the ordinary signs of phlegmonous inflammation of the areolar tissue, which it is unnecessary for me to describe; for I must assume, in a clinical lecture, that you are familiar with the principles of general pathology. If suppuration has taken place, where the abscess points the tegumentary covering has become thin and of a bluish or a livid color. To detect fluctuation, with one hand press the breast against the chest, while with the fingers of the other you palpate the projecting tumor. If there has been circumscribed tumefaction, redness of the surface, a thinning of the skin, and other signs of local inflammation gradually developing for some days, it will hardly be possible for one of ordinary intelligence and acquirement to make a mistake as to the case he has to treat. In this form of inflammation, where appropriate treatment is resorted to, it rarely happens that we have more than one abscess. The constitutional symptoms attending glandular inflammation are much more marked; there is much more febrile reaction, the local pain is much more intense. During the inflammatory stage there is a nodulated induration, varying in size according to the extent of gland involved, called by nurses a lump in the breast; and the function of lactation is painful, imperfect, and often entirely suspended, so far as the breast involved is concerned. It is the form of mammitis which succeeds lacteal obstruction, or engorgement, when this exists. The abscesses resulting are frequently multiplied, particularly if the gland be irritated by a continued effort to keep up lactation. Velpeau says that he has seen in the course of two or three months, twenty, twenty-five, thirty-three, forty-six, and in one case fifty-two abscesses in the same breast. He regards this form of abscess as much more frequent than either of the others. Suppuration takes place much more slowly than in the other forms where the seat of the inflammation is the areolar tissue, two, three, or four weeks passing before pus is formed, during which the breast is engorged either partially or completely, and is the seat of profound lancinating pains. The subglandular inflammation usually occupies the whole of the areolar tissue at the base of the breast. The surface of the breast is not usually sensitive to the touch or painful, but there is a deep-seated pain, greatly increased by pressure on the whole organ. When suppuration has taken place the breast presents a smooth even surface, without lumps, but is often greatly enlarged, sometimes enormously so, with a feeling of great weight and distension, irregular chills and partial perspirations. If both the areolar and glandular tissues are inflamed, or one is developed as secondary to the other, there will, of course, be found more or less of the signs characteristic of each combined.

The Wisconsin State Hospital for the Insane.—This institution was opened in July, 1860. It is situated in Madison, Dane Co., and is under the care of Dr. J. P. Clement as Medical Superintendent, and Dr. John W. Sawyer as Assistant Physician. From Dr. Clement's second Annual Report, we learn that since the opening of the hospital there have been admitted 145 patients—72 males and 73 females. Discharged, 42—21 males and 21 females. There now remain 103—51 males and 52 females. Of those discharged, 16 were recovered, 7 improved, 8 unimproved, and 11 died. The total amount of current expenses for the past year was $20,640.76. The Trustees call for an appropriation of over $40,000 for the present year—of which $3,500 will be needed to replace the boilers now in the new hospital, which have proved unsuitable for the place, and a source of great annoyance. It is stated that to run the machinery with these boilers there will be required, when another wing of the building, now being erected, is completed, 1000 cords of wood per annum. When this building is finished, which will be during the coming summer, the hospital will accommodate more than 200 patients.—*Bost. Med. Jour.*

Dr. Felix Roubaud, Inspector of Waters at Pougues, and formerly journalist, is about to marry, say the French journals, the young widow Countess de Montureux.

Original Communications.

THE CLIMATE OF THE STATE OF MINNESOTA,

AND ITS ADAPTATION TO PERSONS SUFFERING FROM PHTHISIS PULMONALIS.

By GEORGE LEWIS, M.D.,

OF ST. PAUL, MINNESOTA,

MEMBER OF THE NEW YORK ACADEMY OF MEDICINE, OF THE NEW YORK PATHOLOGICAL SOCIETY, ETC., ETC.

Perhaps there is no question of more vital importance to the welfare of the community at large, which the medical profession are so frequently called upon to decide, and which they feel so little qualified satisfactorily to determine, as that of the adaptation of certain latitudes or climates to peculiar morbid conditions of the human system. From the days of Hippocrates to the present the modifying agency of climate upon the tubercular diathesis has been recognised by the medical profession. To gain some adequate conception of its importance, we need but contemplate the increasing and universal prevalence of tubercular disease, which in some portion of our land, especially in the New England and seaboard States, causes nearly twenty-four per cent., or one-fourth of their entire mortality.* So universal is the prevalence of this disease that scarcely a family circle exists which has not been invaded by this fell destroyer, and in numerous instances whole families have fallen before the relentless progress of this fatal malady.

That the influence of climate is more efficacious in modifying and controlling this than most other diseases, the practice so much in vogue of sending patients suffering from phthisis pulmonalis from one latitude to another, generally from a colder to a warmer climate, sufficiently attests. On the Continent of Europe, the south of France, Italy, Greece, also Egypt, in the valley of the Nile, the Isle of Madeira, have been famous places of resort in which the languishing consumptive has taken a winter residence with varying degrees of benefit. Nearer home the mild climate of the West India Islands, and in our own country the genial salubrity of Florida, the pine forests of Georgia, offered inviting places of resort to phthisical patients who were anxious to escape the inclemency of our northern winters. More recently, as the tide of emigration and civilization has extended westward into the central portion of our continent, and to the Pacific shores, other climates have been brought to our notice, which demand at least the attention and patient investigation of the medical profession. Such are the climates of western Texas, New Mexico, the Pacific slopes of lower California, the upper Mississippi Valley, and a large area of country extending westward between it and the Rocky Mountains.

It is no part of my present purpose to enter into a discussion of the comparative merits of any of the above-named climates as a place of residence for tuberculous patients. It is the object of this communication, after giving the climatology of this region, and contrasting it with other portions of the country, merely to place upon record such observations as a winter's residence in the upper valley of the Mississippi enabled me to make, that may serve in some measure as a guide to the medical profession in determining more accurately with regard to its appropriateness as a place of residence for patients suffering from tuberculous disease.

Especially is it important in the present distracted state of our country, since the moral insanity of our southern brethren has deprived the invalid portion of the community of their usual places of winter resort, for the medical practitioner to know with some degree of precision if the wonderful changes reported to have been wrought in tuberculous constitutions by a residence in the climate of Minnesota are entirely groundless. The loss of a brother by phthisis pulmonalis, who had passed one winter in the valley of the Nile, and another in Florida, without permanent benefit, and the unequivocal evidence of the development of tubercles in my own person, compelling me to retire from a somewhat laborious practice, have brought the subject to my own mind with peculiar force.

The leading characteristics which distinguish the climate of Minnesota from that of our New England and Atlantic States are its wet and dry seasons, its remoteness from oceanic influences, its uniformly high position, occupying as it does the elevated plateau of the North American continent. Its altitude at Fort Snelling, five miles above St. Paul, lat. 44° 53′, is 820 feet; at Fort Ridgley, some distance southwest of this point, lat. 44° 15′, it is 1100 feet, and at Fort Ripley, northwest, lat. 46° 19′, it is 1130 feet, above the level of the sea.

The arctic declivity commences about its northern boundary, as is evident from the northerly direction of rivers having their origin there, and in the southern boundary of the British possessions. The head waters of our great northern chain of lakes, having their origin on its north-eastern boundary, find an outlet through the channel of the St. Lawrence River, which takes a north-easterly course, pouring its ceaseless torrent into the Atlantic Ocean. The Red River of the North, having its source in the northern border of this State, takes a course nearly due north, and empties into Hudson Bay.

Not far remote from the origin of the Red River rise the numerous rivulets whose confluence forms the Mighty Father of Waters, which taking a southerly direction rolls onward in silent majesty until, having traversed a territory of three thousand miles in extent, it loses itself at length in the Gulf of Mexico. From the foregoing circumstances the term Water Shed of the Continent has been not inappropriately applied to this country.

The surface of the country is gently undulating, and beautifully diversified with forest islands, and dotted with lakes of pure water, which swarm with fish of a superior quality. The soil is composed of a dark, sandy loam, and is warm, fertile, and productive, and free from the malarial exhalations which are usually rife in new countries, and act so potentially in undermining enfeebled constitutions.

We have remarked that one of the leading characteristics of the climate of Minnesota is its wet and dry seasons, being in this particular an inversion of the climate of California—the dry season in Minnesota corresponding to the wet season in California, and *vice versa*.

Reversing the usual order of arrangement we shall place the statistics of precipitation before those of temperature, and for convenience sake, while speaking of this subject, shall divide the year into two seasons. What may be termed the wet season usually commences about the first of April, and continues six months. The records of mean annual precipitation, as kept at Fort Snelling, five miles above St. Paul, extend over a period of nineteen years, and correctly represent the amount of precipitation for this place, and its vicinity. The table annexed shows the monthly mean for the six months of wet season at St. Paul, and also the same for the corresponding months at New York.

At St. Paul.		At Ft. Columbus, N. Y. city.	
April....	2·14 inches.	April....	3·33 inches.
May	3·17 "	May	4·78 "
June....	3·63 "	June....	3·46 "
July	4·11 "	July	3·17 "
Aug.....	3·18 "	Aug.....	4·70 "
Sept.....	3·32 "	Sept.....	3·31 "
	19·45 "		22·75 "

Excess of precipitation at New York.....3·30 inches.

* See Blodget's Climatological Distribution of Pulmonary Disease, page 471.

In New Hampshire 21 per cent. of the mortality is from phthisis; in Massachusetts, 22 per cent.; in Vermont, 24 per cent.; in Maine, 22 per ent.

The following table shows the mean precipitation for the six months of dry season, commencing with October, and the same for the corresponding months at New York.

At Ft. Snelling, 19 years.		At New York, 19 years.	
Oct.....	1·35 inches.	Oct.....	3·40 inches.
Nov....	1·31 "	Nov....	3·39 "
Dec. ...	0·67 "	Dec. ...	3·93 "
Jan. ...	0·73 "	Jan.....	2·78 "
Feb. ...	0·52 "	Feb. ...	2·92 "
March..	1·30 "	March..	3·44 "
	5·88 "		20·06 "

We notice here a mean for the six months of dry season in Minnesota a fraction less than one inch per month.

Excess at New York for the same time .... 14·18 inches.
Excess for the year at New York..... 17·48 "

When we compare the annual mean amount of precipitation here, with that of the New England and Atlantic States, the contrast is striking. The following table is so arranged as to show the mean, maximum, and minimum of precipitation for a series of years at a considerable number of places in our Atlantic and inland States.

	Years.	Maximum in Inches.	Mean in Inches.	Minimum in Inches.
St. Paul.....	19	49·69	25·43¦	15·07
Houlton, Me.	9	41·91	36·97	30·80
Burlington, Vt.	20	—	34·11¦	—
Hanover (Dart. Col.) N. H.....	18	—	41·00	—
Cambridge Obs., Mass.....	14	54·13	44·48	34·74
Providence, R. I.	24	53·27	40·05	29·51
Ft. Columbus, N. Y. harbor	19	65·51	42·18	29·80
Newark, N. J.....	17	—	44·51	—
Baltimore.....	19	51·70	40·98	28·39
Philadelphia	12	54·85	42·34	35·00
Norfolk, Va.	19	74·16	45·18	19·32
Charleston, S. C.	12	65·31	48·29	33·98
St. Augustine, Florida	3		31·80	
Ft. Brooke, Florida.....	16	89·86	55·47	44·77
Augusta, Ga.	4	—	40·78	—
Huntville, Ala.....	9	67·66	54·88	29·07
New Orleans	17	62·64	52·31	39·96
Albany, N. Y.....	28	50·97	40·67	31·79
Rochester, N. Y.....	20	39·00	30·44	17·84
Detroit, Mich.	13	38·49	30·07	21·51
Cincinnati	20	65·18	46·89	30·62
St. Louis, Mo.....	19	65·36	41·95	30·89
Brownsville, Texas.....	6	56·30	35·17	20·76
San Antonio, Texas.	3		33·77	
Milwaukie, Wisc.	7		27·20	
Muscatine, Iowa	10		44·33	
Athens, Ill.	10		41·80	

That comparative absence of moisture is one of the distinguishing characteristics of the climate of Minnesota the foregoing statistics conclusively demonstrate; and this comparison not only holds good with reference to the Atlantic but applies to most of our inland States.

TEMPERATURE.

The mean temperature of the climate of Minnesota is a number of degrees warmer than in corresponding latitudes in our Atlantic and New England States.

This remarkable increase of temperature, as we approach the central portion of this continent, constitutes one of its striking peculiarities. The following table is so arranged as to show the mean of temperature for the different seasons and year at St. Paul and other points on the same parallel of latitude.

	Lat.	Spring	Sum.	Aut.	Wint.	Year.	No. of years.
	° ′	°	°	°	°	°	
St. Paul.....	44 58	45·6	70·6	45·9	16·1	44·6	35½
Green Bay, Wisc.	44 30	43·5	68·5	46·0	19·9	44·5	21
Penetanguishene, Canada	44 48	39·2	68·0	45·2	21·7	43·5	1
Potsdam, St. Lawrence Co., N. Y.	44 40	42·9	66·3	45·4	19·8	43·6	21
Burlington, Vt.	44 29	42·7	67·9	47·8	21·6	45·0	21
Ft. Sullivan, Eastport, Me.	44 54	40·2	60·5	47·5	23·9	43·0	25
Castine, Me.....	44 23	40·7	62·0	48·3	23·2	43·4	40

The foregoing statistics demonstrate the fact that at St. Paul the annual mean temperature is one or two degrees higher than at other points situated on the same parallel in the Middle and Eastern States; also, that its spring mean is from two to six, and its summer from two to eight degrees higher than that of other points situated on the same parallel. Its autumnal mean averages about the same, and its winter mean is from three to seven degrees.

The arrangement of the following table designates points having the same yearly mean of temperature as St. Paul, but situated in a lower latitude, and also in a striking manner shows the mean distribution of heat for the various seasons of the year.

	Lat.	Spring	Sum.	Aut.	Wint.	Year.	No. of years.
	° ′	°	°	°	°	°	
St. Paul.....	44 58	45·6	70·6	45·9	16·1	44·6	35½
Kenosha, Wisc.	42 35	40 1	65·3	47·6	26·7	44·9	3
Ft. Winnebago, Wisc. ...	43 31	45·5	67·9	46·0	19·8	44·8	16
Toronto, Canada	43 39	41·1	64·8	46·6	24·5	44·3	16
Cherry Valley, N. Y.....	42 48	42·6	65·4	46·0	23·0	44·2	15
Williamstown, Mass.	42 43	41·5	66·4	48·2	22·9	44·8	4
Princeton, Mass.	42 28	40·7	65·8	48 3	21·6	44·1	2
Fayetteville, Vt.	42 58	42·8	66·1	46·4	20·9	44·1	6
Concord, N. H.	43 13	42·6	65·4	47·3	22·7	44·5	10
Hanover, Dart. Col., N.H.	43 43	38·1	62·8	43·1	16·1	40·0	3
Portland, Me.	43 39	42·8	65·2	48·1	24·7	45·2	22

The above statistics show the annual mean temperature of the climate of St. Paul to be the same as that of the Middle and New England States two degrees further south, and that its spring mean is from two to seven, and its summer from three to seven degrees higher than that of those States two degrees further south. Its autumnal mean averages nearly the same, and its winter range is from three to seven degrees lower. This subject is most forcibly illustrated by a reference to the isotherms of the Continent. The following table gives a familiar and forcible illustration of the climate of Minnesota, designating places which have the same mean temperature for the respective seasons of the year.

Spring. Mean Temperature, 45°·6.	No. of Years.	Summer. Mean Temperature, 70°·6.	No. of Years.
St. Paul.....	35½	St. Paul.....	35½
Boston, Mass.	20	Lowell, Mass.	7
Springfield, Mass.	2	Trenton, N. J.....	5
Worcester, Mass.....	7	Middletown, N. Y.	3
Kinderhook, N. Y.	17	Flatbush, L. I., N. Y.....	24
Utica, N. Y.....	9	Newburg, N. Y.....	18
Cooperstown, N. Y.	16	Philadelphia, Penn.....	10
Onondaga, N. Y.	16	Mifflinton, Penn.....	16
Lewiston, N. Y.....	18	Warren, Penn.	1½
Detroit, Mich.....	13	Hudson, Ohio	7
Ann Arbor, Mich.	3	Obertin, Ohio	5
Battle Creek, Mich.....	5½	Chicago, Ill.....	5
Chicago, Ill.....	5	Beloit, Wisc.	6
Beloit, Wisc.	6	Portage City, Wisc.....	16
Portage City, Wisc.	16	Pambina, M.T., Lat. 49° 7′....	12

Autumn. Mean Temperature, 45°·9.	No. of Years.	Winter. Mean Temperature, 16°·1.	No. of Years.
St. Paul.....	35½	St. Paul.....	35½
Portland, Me.	31	Houton, Me.	17
Burlington, Vt.	6	Hanover, N. H.	3
Montreal, Canada.....	15	Williamstown, Vt.	13
Lake Simcoe, Canada W.....	1	Montreal, Canada.....	15
Lowville, Lewis Co., N. Y....	19	Sault St. Marie	31*
Plattsburg, N. Y.	11		
Fairfield Academy, N. Y.....	19		
Cherry Valley, N. Y.	15		
Ebensburg, Penn.	2½		
Smethport, Penn, ...	3		
Green Bay, Wisc.	21		
Manitowoc, Wisc.	21		
Baraboo, Wisc.	1		

The Isothermal lines of mean temperature for the season and year, as laid down by Lorin Blodget, Esq.,† indicate for Minnesota, in the vicinity of St. Paul, a mean spring temperature, corresponding to that of central and southern Wisconsin, northern Illinois and Indiana, southern Michigan, central and southern New York, northern Connecticut, and central Massachusetts. A summer mean corresponding

* See Neil's History of Minnesota. † See Blodget's Isothermal Charts.

with that of southern Wisconsin, northern Illinois and Indiana, southern Michigan, northern Ohio, central and southern Pennsylvania, and southern New York. Its autumnal mean with that of northern Wisconsin, central Michigan, northern New York, southern New Hampshire, Vermont, and Maine. Its winter, with northern Wisconsin and New York, central New Hampshire, Vermont, and southern Maine.

Those who have not attentively studied the isotherms of the Continent will be surprised to learn the extremes of latitude which they traverse. The lines indicating the mean temperature of 45° for spring, and 70° for summer, commence on the Atlantic coast, the former on the 43d, and the latter on the 40° parallel. They gradually incline to the north as we trace their course westward, until having passed the great lakes they turn abruptly to the north west, crossing the 45° at St. Paul, and reach their highest point on the 51st parallel in the British possessions; then, curving around, descend east of the Rocky Mountains, including in their circuit a vast area of country lying between them and the upper Mississippi valley, which has the same climatological features.

Referring to the isothermal charts which he had laid down, Mr. Blodget remarks, "It will be seen that the thermal lines for each season are thrown northward further, on passing Lake Superior westward, in the charts of this work than in those of the Military Report prepared by the author. At the time those were drawn the number of observations beyond the limits of the United States was so small that the full expression was not given to the statistics then used, in the fear that some correction would ultimately be found to apply to them, reducing the extreme northward curvatures they indicated. But a further collection and comparison warrants the position now given to the thermal lines, placing them further northward than before, and extending them in a course due northwest from Lake Superior to the 58th parallel. For the extreme seasons, Winter and Summer, this accurate diagonal extension of the thermal lines across the areas of latitude and longitude is very striking." How imperfect a criterion parallel lines form, by which to judge of the climate of a continent, is here manifest.

(To be Continued.)

REPORTS ON
SOME RECENT IMPROVEMENTS IN MATERIA MEDICA AND THERAPEUTICS.

By EDWARD H. JANES, M.D.,
OF NEW YORK.

II.

ANARCOTINE AS AN ANTIPERIODIC.

The prospect of an ultimate failure in the supply of quinine, or even the increasing expense attending its employment, is sufficient to induce the profession to hail with pleasure the introduction of any new remedy that may serve, in some degree, as a substitute for this world-renowned specific for intermittents of every grade and type. A number of remedial agents have already been added to the list of antiperiodics, each having its advocate by whom its claims are presented to the profession with the utmost confidence, and in the most favorable light. The employment of anarcotine as an antiperiodic is not altogether new. We learn from our standard works on materia medica that Dr. Roots, of England, was induced, by the bitterness of its salts, to employ it in intermittent fever, and that Dr. O'Shaughnessy, of Calcutta, obtained the happiest results from its use, considering its antiperiodic powers superior even to that of quinine. He gave it in doses of three grains three times a day, and never found it to produce narcotic effects, headache, nausea, or constipation, but to act powerfully as a diaphoretic. He gave it "with the full expectation of arresting the next periodic return of fever." The testimony of these two gentlemen seems to have attracted but little attention among the profession, yet recent experiments have shown that the article possesses sufficient therapeutic value to entitle it to more confidence than it has hitherto received. *The Indian Annals of Medical Science*, for September, contains an elaborate report of Dr. A. Garden, of Ghazeepore, addressed to the Deputy Inspector General of Hospitals, giving the results of six hundred and eighty-four cases of intermittent fever treated by this remedy, and tabulating them in various forms, so as to represent the severity of the cases treated, the duration of treatment, the amount of anarcotine used, economy of the drug, and various other points of interest. Before examining the details of this report a few words concerning what is already known of the natural history and properties of anarcotine would not be out of place. Anarcotine has been usually known by the name of narcotine, from the erroneous impression that it represented the narcotic principle of opium; though in truth when pure it contains no narcotic properties whatever; and hence it has been proposed to spell it with the prefix *a*, in order to correctly designate its real character. It is known as one of the crystalline constituents of opium, "obtained by extracting the aqueous extract with ether, which upon evaporation leaves it nearly pure." It is described as consisting of white, silky, flexible, acicular crystals, without taste or smell, insoluble in cold water and alkaline solutions, slightly soluble in boiling water and cold alcohol, more readily soluble in hot alcohol, ether, and the diluted acids, also in the volatile and fixed oils. With dilute mineral acids it combines to form salts of a bitter taste, in one of which it is administered generally in the form of a sulphate. Chemistry has given us four homologous varieties of this alkaloid, viz. the normal, the methylic, the ethylic, and the propylic anarcotine. Each of these has a different chemical formula, and when treated with caustic potash they yield respectively ammonia, methylamin, ethylamin, and propylamin. This, however, is a matter of more scientific curiosity than of therapeutical importance. Anarcotine, when administered in doses of gr. ss. to gr. i., acts as a tonic, increasing the appetite, and giving general tone to the system; by larger doses the action of the heart is increased, the pulsations become more frequent and fuller; and in still larger doses (gr. v. to gr. x.), it produces increased warmth of surface and diaphoresis. Nausea, giddiness, and sometimes vomiting have followed the administration of large doses, while some claim to have given it in doses of twenty, thirty, and even sixty grains, with entire impunity. This discrepancy may arise, perhaps, from the use of an impure preparation, or from the general state of the patient's health contra-indicating its employment.

The value of this article as an antiperiodic is what now claims our more immediate attention, and a brief abstract of Dr. Garden's report will enable us to judge, as far as the testimony of others is concerned, with some degree of intelligence in reference to this part of the subject. Dr. G. commenced the use of anarcotine during the prevalence of what he calls "a most severe, and fatal epidemic of fever," and during the months of October, November, and December, 1859, and January, 1860, he administered it to 525 patients, among which nine deaths occurred. In order to thoroughly test the value of the drug accurate notes were kept of 194 cases of quotidian and tertian intermittents, and these he has arranged in tables of different forms, from the examination of which we learn that in 154 quotidians the remedy failed in four, and in forty tertians it failed to cure in three cases, making the percentage of failures 3·6, or one in 27·71 in which the continuance of the symptoms after a fair trial made it necessary to change the treatment, from which he concludes that in this view the remedy is fully equal to quinine. Of the 150 quotidians cured the treatment did not commence till after the occurrence of the fourth paroxysm; and in tertians not till after the third or fourth. In the former the fever returned on an average 2·48, and in the latter 2·54 times after the first administration of anarcotine; though in nearly one-fourth of all the cases the first dose checked the fever so that it never

returned, and in nearly two-thirds of the cases treated the fever was cured after the return of the second paroxysm. These facts are considered sufficient, at least, to entitle anarcotine to rank after quinine as an antiperiodic. In an economical point of view the author's figures are plain and conclusive. In quotidians the average amount required in all cases, including the amount given on the first day on which the paroxysm did not return, was not quite one scruple; which, together with the amount taken during convalescence, made an average of a little over thirty-five grains a case. The average amount required in tertians was greater, being 57·8 grains. In all the cases of both types the average amount required to effect a cure was 22·7 grains, and that taken during convalescence was 16·3 grains, or in all thirty-nine grains per case. In order to fully appreciate this part of the subject, it must be remembered that these notes were taken during the prevalence of a severe epidemic, in which many cases proved rapidly fatal when not treated, and all were more than ordinarily difficult to cure, and especially prone to relapse, making it absolutely necessary to continue the use of the medicine for some days after the cessation of the fever. It is not presumed that anarcotine is of equal value to quinine; but a remedy that fails in only 3·6 per cent. of all cases treated, and cuts short the fever before the occurrence of the third paroxysm, deserves at least the second place in the ranks of anti-periodics. Occasionally disagreeable symptoms were caused by large doses, such as nausea, giddiness, and vomiting. These for the most part were obviated by diminishing the dose, while the frequency of administration was increased. Of its value in the treatment of remittent fever Dr. G. has kept no records of his experience, but his general feeling is not so much in its favor. The doses used during this epidemic were as a tonic, gr. ss. combined with a small excess of sulphuric acid; and as an antiperiodic, grs. iss. to gr. iij. The tendency of the remedy to constipate the bowels made it necessary to commence the treatment with the administration of a cathartic, and the occasional use of some mild laxative. Such is the testimony of one whose large experience and careful observation eminently fit him to speak with intelligence on the subject, and which strongly supports the opinion formed by Dr. O'Shaugnessy and other medical officers many years ago.

AMAUROSIS BY INJURY OF THE SUPRA ORBITAL NERVE.

By HENRY D. NOYES, M.D.

It has long been observed that blows upon the supra-orbital region sometimes cause blindness. The special lesion has in certain cases been asserted to be simply contusion of the supra-orbital branch of the trigeminus nerve. On the contrary some pathologists declare the blindness must result from lesion within the eye.

Mackenzie discusses this point at some length, page 150, quoting from Beer, Morgagni, and others. He admits the possibility of the agency of the supra-orbital nerve, and offers the hypothesis that an irritation communicated to the brain by the injured nerve causes a "reflex disease, probably inflammatory, to be propagated to the optic nerve, and to other nerves, concerned in the function of vision." Other authors, whom it would be tedious to quote, invoke concussion or apoplexy of the brain, concussion of the retina, hæmorrhage within the eye, etc., as the explanation of the loss of sight.

Mr. Haynes Walton, in the second edition of his book, the "Surgical Diseases of the Eye," at page 34, goes into this subject. He had occasion to investigate the matter carefully, because called to testify in court in a claim for damages for a slight wound of the eyelids. The question of amaurosis depending immediately or ultimately upon injury of the nerve was raised by the plaintiff's counsel. Mr. Walton testified that in his opinion "mere injury of the nerve-branch on the head can have no effect on the function of the retina; that loss of sight, when associated with such lesion, is due to coincident injury of the eyeball." He also presents cases which he observed, where after such injuries blindness followed without external evidence in the eye to account for it, but in which by the ophthalmoscope he discovered detachment of the retina by hæmorrhage beneath it, also evidences of iritis, disorganization of the vitreous humor, choroidal atrophy, etc.

This subject was singled out for comment in a recent review of Mr. Walton's excellent treatise, and I have a case to record which bears directly upon the question at issue: viz. whether contusion of the supra-orbital nerve is competent to cause blindness without coincident injury of the eyeball, and without the intervention of inflammatory processes.

Dr. J. R., æt. about 48, five years ago was living and practising medicine in Central America. He had an attack of erysipelas of the face, during which he became delirious. At a time when unguarded and in delirium he rose from bed, and in moving about the room accidentally struck his forehead against the wall. The shock and pain startled him, and made him conscious of having received a blow. The next day he felt pain and swelling in the integument about the right eyebrow, and he remembered the accident of the previous day. This shows that the delirium was not profound. Under the effects of erysipelas his eyelids were closed, but when they could be opened he found his right eye totally blind. The interval elapsing from the injury to the discovery of blindness I have not recorded. I infer from the doctor's manner of statement that it was not many days, at the outside not more than two weeks.

The eye presented no outward marks of impairment; there were no evidences of inflammation; the pupil continued active; there were no muscæ, no phosphenes; there was no perception of light. The skin of the forehead and scalp, to which the right supra-orbital nerve is distributed, remained partially insensible for three years. For a year and a half past it has recovered normal sensation.

The doctor kindly allowed me to make a careful inspection of his eye with the ophthalmoscope. Before instilling a solution of atropine I noted the pupil to be a trifle larger than the opposite, not prompt in movement, but contractile, not perfectly circular; there is occasional divergent squint to a slight degree. By the most careful test I could obtain no evidence that this eye had the least perception of light. There remained no external marks of the injury in either scars of the skin, or irregularity of the orbital ridge. The movements of the globe were perfect, there were no unusual appearances in its external aspect. The pupil was dilated by atropine, and I carefully explored the interior of the eye with the ophthalmoscope. The media were perfectly transparent, no spots or striæ in the lens, no flocculi in the vitreous. The retina in situ, no abnormal appearances about the macula lutea. No transformations in the choroid; its tissue unimpaired by either atrophy or exudation. The optic nerve of a slight rosy tinge, without central excavation; with no diminution in size, there being no shrinking from it of the choroid. The branches of the arteria centralis not quite so large as usual, but the veins of a size corresponding to the calibre of the arteries; I scanned the nerve very critically, expecting to find in it the explanation of the blindness. I examined its surface by the upright image, the direct method, but could discern no evidences of atrophy, or other change of structure. I have seen not a few instances of atrophy of the optic nerve, and am familiar with the appearances they present, but between them and this I could establish no similarity.

Now what do the facts show, and what inferences can be drawn from them? There was a blow over the eyebrow, proved by the doctor's memory, and by the succeeding swelling. The supra-orbital nerve was injured, proved by the partial anæsthesia during three years afterwards. There was no violent inflammation in the eye, because the erysipelas abated soon enough to discover this fact.

Neither was there a hæmorrhage either into the vitreous humor or behind the retina; the proof against the former is that unless the clot occupied the whole vitreous it would not have caused total loss of perception of light, and had the blindness depended upon this, when the clot was absorbed, some sight would return. The same is true of apoplexies of the retina. Against hæmorrhage behind the retina the proof is, that after such a lesion the separation always persists in some degree, and can be discovered with the ophthalmoscope.

The loss of sight was not from subacute or chronic internal inflammation; such a process would not have caused the sudden and complete blindness, and it must have left traces in the vitreous humor, and in the choroid; moreover, all inflammatory symptoms were wanting; and they would have attracted the notice of an intelligent medical man.

Lastly there was no atrophy of the optic nerve—the signs of this state are briefly, extreme whiteness of its substance, diminution in size of the disc, shallow central excavation, excessive tenuity of the arteries with dilation of the veins, and often a ring of sclerotic surrounding the disc, made visible by the shrinking of the nerve. All these signs, which, if present, must have become strongly pronounced during five years, were wanting. The slight decrease in the size of the arteries was wholly unlike that in atrophy of the nerve.

Concussion of the retina remains. I do not see how this could have been confined to only one eye. Moreover, this condition, if it does occur, is regarded as usually of temporary duration, and followed by more or less complete recovery. The supposition of lesion of the brain by the accident, such as hæmorrhage or concussion, would seem to be negatived by the blindness being upon only one eye, and by the absence of all corresponding symptoms, as convulsions, stupor, paralysis, or pain. The delirium present at the time was of a mild type, and that the injury did not impair the cerebral functions is shown by the lucid interval of the next day, when the fact of having been hurt was remembered.

Up to this point I have argued the case with negative results. As to positive conclusions I have none to offer. I do not profess to explain the chain of sequence, but this case seems to me to prove that there is a direct, although occult connexion, between injury of the supra-orbital nerve and the functions of the retina. By direct I do not mean that no other tissue may be implicated, but that it is not necessary to suppose intra-ocular lesion.

This result does not invariably follow. The nerve may be severed, pricked, and bruised, without affecting vision, yet in other cases the contrary will follow. This result is not analogous to the destruction of vision by division of the roots of the fifth pair of nerves, for that is by sloughing of the cornea from impaired nervous supply enfeebling the nutrition. This case occurring in a medical man permits greater reliance upon the history of symptoms, and the profession are indebted for his readiness to permit his case to be examined, and to be recorded for the benefit of science.

The loss of sight was the direct result of the blow—it was immediate—it was total. No cause appears to explain it, save the injury to the supra-orbital nerve. Yet how to connect these facts understandingly is certainly very difficult. It might be alleged that the lapse of five years from the injury to the ophthalmoscopic examination renders it impossible to reason conclusively upon the cause of the loss of sight. Such an assertion might be admitted if there had been recovery of vision, but, since the patient continues blind, the lesion which produced blindness so suddenly at first must still be in force, and if within the eye, should be discoverable, unless it be the microscopic elements of the retina which have suffered disorganization.

278 Fourth Avenue.

THE salaries of the Professors at the College de France, and at the Academy of Sciences, have been fixed at 7500 francs.

Reports of Hospitals.

NEW YORK HOSPITAL.

INJURIES OF THE HEAD.

THEIR NATURE AND TREATMENT, WITH ILLUSTRATIVE CASES,

By D. B. St. John Roosa, M.D., and James L. Little, M.D.,
Resident Surgeons.

(*Continued from page* 138.)

FRACTURE OF THE SKULL, FOLLOWED BY INFLAMMATION AND SUPPURATION WITHIN THE CRANIUM.

I.—Mary J. McCulloch, æt. 7, was admitted Sept. 14, 1861. (Dr. Markoe, attending surgeon.) This little girl, with her sister, was precipitated to the ground, by the giving away of an old shed on which they were playing, falling a distance of about twelve feet. On admission a contused scalp wound of a triangular shape was observed over the right parietal eminence; the bone was not exposed, and on a careful examination no fracture could be made out. The wound was dressed with cold water, and as soon as it began to granulate Peruvian balsam was applied, and the edges brought together with adhesive straps. Patient complained of no pain in her head, and was playing about the ward the day after the injury. On the fifteenth day the wound had almost entirely closed, and she was discharged apparently cured. About a week after her discharge she was again brought to the hospital. Her parents gave the following statement of her condition while at home:—The second day after her discharge she ate cakes, candy, and very heartily of meat, which resulted in the overloading of her stomach, and vomiting; she became very irritable and somewhat feverish at night, and on the third day had a chill, followed by profuse sweating: no medical attendance was sought for, and she gradually grew stupid, and on the sixth day had a severe convulsion followed by coma; she was then brought to the Hospital. On admission her symptoms were those of compression of the brain:—Coma, dilatation of both pupils, paralysis of left arm and leg; pulse 120, hard and irregular; urine and fæces escaping involuntarily. One xamination a puffy, semi-fluctuating tumor, about two inches in diameter, was found over the right parietal bone, and near the wound. The wound had almost entirely healed. A consultation being called, it was decided to make an incision through the tumor down to the bone. This was done, and a collection of pus was found under the pericranium, and a careful examination revealed a circular fissure, about an inch in diameter, without any depression, a little above the original wound. The surrounding bone was dark and dry in its appearance. A button of bone was removed by a small trephine from the outer edge of the fracture. As soon as the trephine was removed pus oozed up through the fissure made by the instrument. The removal of the piece of bone gave exit to about ʒ iss. of very thick, fetid pus. The bone for some distance surrounding the fracture was very dry, and softer than natural. Enough bone was removed by the rongeur, to leave an opening about an inch and a half in diameter. The collection of matter seemed to be situated between the dura mater and skull, the brain substance not being exposed. The operation was followed by no alleviation of the symptoms, the patient surviving four hours. It is to be regretted that no post-mortem examination could be obtained of this case, the parents and the coroner refusing to grant one.

FRACTURE OF THE VAULT AND BASE OF SKULL; NO DEPRESSION.—CONSTANT RECURRENCE OF CHILLS.—DEATH ON FORTY-FIRST DAY.—AUTOPSY.

II.—Annie McCulloch, æt. 9 years, was admitted September 14, 1861 (Dr. Markoe, attending surgeon), having received her injuries at the same time, and in the same manner, as the foregoing case. On admission a semicircular scalp wound, of about two and a half inches in length, was found, situated over the vertex, the pericranium being uninjured. On careful examination no fracture could be

detected. She was suffering from the following symptoms:—Coma, pulse sixty, surface cool, pupils moderately contracted, respiration slow but regular, and *vomiting*. She was placed in bed, when heat was applied, and a stimulating injection given. Patient reacted promptly, and for the first eight days appeared to do pretty well. Cold water dressings were applied to the wound, milk diet given, and the bowels kept free. On the 8th, patient was somewhat worse, quite fretful, and for the few last nights quite restless, being disposed to cry out in her sleep; pulse 120 and small. On examination of her head some tumefaction appeared over the left temporal bone, about an inch below the wound. A free incision was made, allowing the escape of a small quantity of pus. A mercurial cathartic was ordered, and also a blister to the nape of the neck. On the tenth day the patient did not seem to be improving; her pulse 120, weak and irregular; pupil of right eye somewhat dilated, while the left was contracted; she had besides a severe spasm, followed by paralysis of the right arm. 12th day.—Patient had a chill, which lasted several minutes; this passed off and she fell into a sleep. The day following she had two chills. A swelling was then observed over the left parietal eminence; this was opened, allowing the escape of some pus; the bone exposed by this incision was observed to be dry and yellowish. From this time the patient had one or two chills every day, and what is remarkable the left cheek during the chill would be colder than the right, and during the febrile excitement following the chill the left cheek would be redder and warmer than the right. This was observed to occur during every paroxysm. Patient's intellect remained tolerably good; she recognised her friends; she was, however, very irritable, sleeping but little night or day. The wounds did not seem disposed to heal, having a dry and glazed appearance. These symptoms continued, patient at times appearing to be better; sometimes, after a chill, getting up out of bed and dressing herself, would walk about the ward, it being impossible to keep her in her bed without tying her down. Several times there would be an intermission of the chills for two or three days. No collections of matter were discovered, except a small abscess over the sacrum, which was opened, and gave no further trouble. She also complained at times of severe pains in her elbows, knees, and other joints; no tenderness, however, or distension of them was noticed. During this time her appetite was pretty good. In the fifth week severe bronchitis set in, and she died of chest symptoms on the 41st day after the injury.

Autopsy.—The coroner utterly refused a post-mortem examination in this case, but the father was finally persuaded to allow an examination of the head to be made. The examination revealed a fracture, beginning at the upper and central portion of the os frontis, running outwards and downwards to the petrous portion of the left temporal bone, without any depression. A small clot of blood, about the size of a ten-cent-piece, surrounded by pus, was found beneath the dura mater under the squamous portion of the left temporal bone, near the line of fracture. The brain substance was softened around this clot. No fluid found in the ventricles, and no signs of inflammation of the meninges were detected. The various joints of the body were punctured, and no evidences of purulent collection were found. It is to be regretted that a more thorough examination of the body was not permitted.

The most important features of this case may be summed up as follows:—1st. The paralysis of the upper extremity of the right side only; the dilatation of the pupil of the right eye, without any marked paralysis of the face or lower extremities. 2d. The constant recurrence of the chills, followed by fever, lasting from half an hour to one hour, having sometimes only one, and at others as many as seven during the day, and *at no time was any sweating noticed after the fever.* 3d. The chill and fever appearing more markedly on one side of the face than on the other. 4th. The great irritability: being fretful, peevish, and restless during the whole course of treatment.

Reports of Societies.

SURGICAL SECTION.

STATED MEETING, JAN. 24, 1862.

DR. JAMES R. WOOD, CHAIRMAN.

DISCUSSION OF DR. GEO. K. SMITH'S PAPER ON THE RELATION OF THE INSERTION OF THE CAPSULAR LIGAMENT OF THE HIP-JOINT TO INTRA-CAPSULAR FRACTURE.

(*Continued from page* 140.)

Dr. W. R. DONAGHE stated that he fully agreed with the first four propositions of Dr. Smith's paper, and was happy to have an opportunity of expressing his appreciation of the obligation under which he had placed us all by settling, after great and laborious research, points about which anatomists have so long differed. To the fifth and sixth propositions, however, he could not so fully subscribe. The fifth proposition was as follows:—"The line of union in a given specimen of fracture of the neck of the femur, cannot be said to indicate the exact position of the line of fracture, if the neck suffered loss by absorption before union occurred; since it is impossible to determine that the loss of structure was entirely at the expense of either fragment of the neck." In the negative of this, continued Dr. D., I would argue that a specimen (and the existence of such is undisputed) in which the neck has been entirely removed by absorption, and the head is closely united to the shaft, affords the strongest presumptive evidence, if not indeed positive proof, *that the line of fracture was intra-capsular.* In such a case the fracture must have been extra-capsular; partly within and partly without the capsule; or intra-capsular.

It could not have been extra-capsular; for, firstly, in the numerous cases of this variety that have been recorded with illustrations by Robt. W. Smith, the neck is exhibited as retaining nearly its full original length. This is what we should expect. Though the vessels are severed which pass into it from the continuous shaft, yet there still remain sufficient sources of blood-supply to maintain, in the great majority of cases, its integrity. The capsular ligament, commencing at the margin of the acetabulum, sweeps outwards to its insertion, from which irregular line some of its deeper fibres are reflected upon the neck as far as the edge of the articular face, forming a true periosteum to the neck, designated by Dr. R. W. Smith as its "cervical ligament." The synovial membrane lines the inner surface of the capsule, and is thence reflected upwards on the "cervical ligament" as far as the head of the bone. Thus the elements of nutrition are supplied to the neck, and it retains its form. Secondly, extra-capsular fracture is, according to Malgaigne and R. W. Smith, accompanied by fracture with displacement of one or both trochanters. If the specimen above quoted had been an extra-capsular fracture it should present evidences of the associated injury; but none are to be seen.

Could such a specimen have been the result of a fracture partly within and partly without the capsule? I cannot recall any cases in which this special variety has been carefully described from post-mortem examination. Its existence seems to have been assumed as an anatomical possibility rather than proved by either symptoms or autopsy. In such a fracture we may assume that a large part of the neck would remain connected with the head of the bone, and that the conditions of nutrition of that fragment would be analogous to those of the neck in the extra-capsular form of fracture. The line of fracture (to bring it into the class partly within and partly without the capsule) must cross the posterior aspect of the neck *outside* of the insertion into that face of the normal capsule (which insertion is usually midway of its length). The synovial membrane, guided by the still attached posterior insertion of the capsule, covers the fragment of the cervix connected with the head of the bone. This fragment is also covered by the "cervical ligament" which is continuous with the gene-

ral capsule along the line of its posterior insertion into the neck. By these two structures the nutritive wants of this fragment are supplied, and it is placed beyond the probabilities of absorption. It must also be remembered, in this connexion, that the absorbing powers of the head are feeble. The best histologists, Bowman, Kölliker, and Morel, have never been able to detect lymphatics in bone. *We have then no right to claim their aid. We are shut up to the veins as the only known absorbent agents in bone.* Could that small solitary vein that runs back in the ligamentum teres cause the disappearance of nearly an entire femoral neck? I would not deny it some absorbing power. It is well known that in intra-capsular fractures that small portion of broken neck which remains attached to the head often disappears up to the level of the margin of the acetabulum, and, in very rare instances, the entire head has disappeared; but in these cases the synovial membrane covering the portion thus absorbed was cut off, by the direction and completeness of the fracture, from continuity with the distal part of that membrane, which alone could supply its vessels. Hence, it added nothing to nutrition. In this fracture, partly extra-capsular, the reverse is true. To quote Dr. Geo. K. Smith's words, "absorption is held in check by the antagonistic force of an abundant nutrition." But Dr. Smith argues that "there are lymphatic vessels in the synovial membrane covering the ligamentum teres, which may become active agents of absorption." It is true that the ligamentum teres is covered by a reflection of the synovial membrane, but it is equally true that the articular face of the head of the femur is not so covered. It is now an acquired fact of anatomy that the synovial membrane does not extend over the cartilaginous, articular surfaces. What could the lymphatics, then, of the synovial membrane folded around the ligamentum teres, do, being obliged to act from a distance upon a head and neck from which they are separated by a thick plate of articular cartilage? Again, in order that lymphatic vessels may absorb effete atoms they must be in immediate contact with such atoms; they must be *interstitial.* Lymphatics of the synovial membrane, then, can only absorb elements of the synovial membrane, in which they are imbedded. They could not even absorb the component elements of the ligamentum teres, which they envelop. If this power be claimed for the lymphatics of the synovial membrane that covers the fragment of the neck still attached to the head, the same reply may be made, viz. that *being on the surface,* and not permeating the bone, their absorbent power cannot extend to the bone. This difficulty is still further increased by the interposition between them and the bone of the "cervical ligament." Moreover, the fact, already enforced, that in extra-capsular fracture, the neck, by the nutritive power of the "cervical ligament" and the synovial membrane, retains most of its length, shows that they contribute to nutrition and not to absorption. In the fracture partly within and partly without the capsule these two structures are equally in contact with that portion of the neck joined to the head, and contribute rather to its integrity than its removal.

The specimen, then, which we took as a text, cannot have been a fracture partly within and partly without the capsule; we have seen that it was not extra-capsular; it must have been *intra-capsular.* May we not, then, substitute Dr. Smith's fifth proposition by asserting *that a line of union of a head immediately to the shaft proves an intra-capsular line of fracture?*

The sixth proposition of Dr. Smith is as follows: "Under favorable circumstances fractures of the neck of the femur, external to the capsular ligament, unite readily by bone; so also do fractures which are partly within and partly without the capsule; and it is highly probable that fractures within the capsule, which are followed by absorption, are sometimes united by bone, after the process of absorption has reached a point external to the normal capsule, where bony material is supplied; but this, if it ever does occur, can never be proven; for if the line of union be partly without the normal capsule, it is impossible to determine that the fracture was entirely within it, and we can never be positive that bony union of intra-capsular fracture has occurred until a specimen is presented in which the line of union is found to be entirely included by the normal capsule."

In opposition to the statement that "it can never be proven that a fracture within the capsule is ever united by bone after the process of absorption has reached a point external to the normal capsule," I have attempted to show that a line of union entirely outside of the capsule proves an intra-capsular fracture, which has united by bone. If this be true the test that Dr. Smith proposes, requiring a line of union entirely "included by the normal capsule," to prove bony union of intra-capsular fracture, cannot be admitted. If my view be correct, *bony union of intra-capsular fracture has been proved by specimens in which the line of union is entirely without the capsule.*

I think it is such specimens which shadow forth the truth in this much-disputed question. That an intra-capsular fracture, *with impaction,* might form an intra-capsular line of bony union, seems possible, but the fact has never been demonstrated. Under any other circumstances than those of impaction the difficulties in the way of bony union within the line of the normal capsule seem insuperable.

May we not assert, then, as the true statement of this matter, that *intra-capsular fracture of the neck of the femur never can present a line of bony union entirely included by the normal capsule, unless in cases of impaction, and that the possibility even under these circumstances has not yet been demonstrated; but that intra-capsular fractures have united by bone, and may again so unite when the inner fragment has, by absorption of the femoral part of the neck, been allowed to come wholly or partly in contact with that part of the femur which is extra-capsular, and for this reason affords abundant bony material?* When such a change in the relation of the fragments has occurred the analogy between their position and that of the fragments in fracture of the anatomical neck of the humerus becomes striking. In this latter form of fracture, when there is impaction, bony union almost always occurs; and even when there is no impaction bony union is frequently the result. (*R. W. Smith, Nélaton, Cloquet.*) "The reparation of the injury is accomplished principally by the lower fragment, which throws out matter in great profusion." (*R. W. Smith.*) The power in the humeral shaft of affording reparative material cannot be greater than that of the femoral shaft, and, the relations of the fragments being now identical, why should not bony union occur in one as it is known to do in the other?

Progress of Medical Science.

PREPARED BY C. Y. SWAN, M.D.

FRACTURE OF OS BRACHII FROM MUSCULAR VIOLENCE.

PIERRE, a reaper, aged 35, of lymphatic temperament and robust constitution; muscular system of normal development; has always enjoyed excellent health, and no hereditary predispositions. Sept. 24, 1861.—Pierre drank with some comrades in a tavern, when one of them proposed to play *tourner poignet,* and here is what followed:—The two tilters seated themselves face to face at a narrow table. Their elbows rested on the table, with forearm flexed at right angles on the arm, and right hand mutually seized. The two right hands thus grasped stood almost perpendicularly from the table. The strongest was to reverse the hand of his adversary, but without jerkings, and solely by the effect of a continued muscular contraction. Pierre had to contend against a young man of a force nearly equal to his own; so the two continued for some moments without failing, when *tout à coup* a crack was heard—Pierre's right hand fell upon the table in excessive pain. The surgeon

called found all the signs of a fractured humerus—deformity, crepitation, pain, and inability to move. The fracture was situate near the superior third, on a level with the insertion of the deltoid, and a little under the insertion of the great pectoral and dorsal; it seemed to be nearly transversal. There was no apparent ecchymosis. Consolidation perfect after thirty-five days, and no deformity.—*L' Union Médicale.*

BRUITS CAROTIDIENS.

M. Marchand believes that the *bruits carotidiens* under puberty are not abnormal, as his examination of forty-five children (eighteen girls, twenty-seven boys) composing a village school goes to prove. The youngest girl was four years old, and the oldest thirteen, but had not yet menstruated. The most of them were of strong constitution, their freshness of complexion testifying to excellent health; only three of the eighteen were sick—one with rheumatism, the second had a contraction of the leg, and the third a lachrymal fistula: but notwithstanding seventeen of them presented the *souffle carotidien;* among fourteen it was a continuous *souffle*, strong, at times rude; in three cases there was a double *bruit de souffle;* in a little girl of ten years, very vigorous, a *timbre musical.* The pulse in these children varied from seventy-six to one hundred and ten. As to the boys the youngest was four years old, and the eldest twelve. All were in good health and all furnished the *bruit carotidien;* in four it was musical; in six a *souffle intermittent;* in seventeen a continued *souffle;* pulse varied between eighty-eight and one hundred and twenty.—*Gazette Hebdomadaire.*

PROPHYLAXIS OF DIPHTHERIA.

M. Loiseau has had twenty years' experience in *tannaging* the throat for the prevention of diphtheritic accidents and croup, and states that his treatment has been very successful. When diphtheria is epidemic all adults, on feeling the slightest *mal de gorge*, should immediately gargle with an aqueous solution of tannin every fifteen minutes, occasionally swallowing some drops, in order that every part of the throat may be submitted to the agent's action. If after twenty-four hours of this simple medication no amelioration is perceptible, an alcoholic solution of the same substance may be used. The trouble not yet receding, add to the above six or eight grammes of tannin, one or two grammes of chloroform, and eight grammes of alcohol. If this fails have recourse to the etherial solution of tannin. In treating a child not old enough to gargle, make it drink very little quantities of one of the above solutions, and at the same time blow some powdered tannin into its throat. The strength of the etherial and alcoholic solutions must of course be in keeping with the age and susceptibilities of the patient.—*Journal de Médécine et de Chirurgie.*

American Medical Times.

SATURDAY, MARCH 15, 1862.

THE CLOSE OF THE WINTER SESSION.

The Winter Session in our medical colleges has closed, and there has been the usual accession of recruits to the ranks of our profession. At the commencement of the lecture season it was supposed by many that the attendance of students would be exceedingly small, and but little encouragement would thus be offered to those whose duty it was to teach. We are now happy to state that such expectations have fallen far short of realization; although some of our smaller colleges in the country have been compelled to close for want of patronage, the metropolitan schools have registered not far short of the usual number of matriculants. The condition of war in which our country has some time past been involved, has developed a branch of study in our various colleges which heretofore was altogether lost sight of; we refer to Military Surgery. Lectures on this branch have been given during the fall and winter courses in all our principal colleges throughout the country, and have generally been well received. They have been attended, not only by the student and practitioner, but also by very many of our army surgeons. The classes in attendance, during the past Winter in New York, have given every evidence of studiousness. Not only have the College duties been well and faithfully performed, but the dissecting rooms have had their share of occupants, and the wards of the Hospitals have been thronged. Several of the teachers have been so stimulated by the student's desire for improvement, that they have inaugurated private courses upon important branches, and the success which they have met will, we hope, render such instruction a permanent feature. The final examinations have been, judging from the testimony of the different examiners, very creditable, and would fain lead us to expect great things from our younger brethren. We would refrain from mentioning any particular individuals who distinguished themselves by their answers, inasmuch as it might place in an unenviable light very many of those who have already claimed for themselves the honor of having passed the "most brilliant examination." It is curious to note how many of such there are in every class of graduation.

The usual number of prizes have been distributed throughout the schools, and there can be no doubt that the system so lately inaugurated is in every way conducive to the welfare of the student, by the impetus which it gives him to increased exertions. The prizes, for the most part, are liberal in their design; and those who have taken a share in their institution deserve the commendation of all who strive after the elevation of the status of medical learning.

It may not be inappropriate at this time to speculate on the different courses which will be taken by those who have become so recently entitled to the honors and privileges of our profession. The inducements for emolument which the army holds out will be sufficient to tempt a great many to enter the service, when opportunities are offered for so doing; some of these will doubtless remain attached to the army even after the close of the war, while others will commence regular practice. The requirements for entering the army are such as to guarantee competency on the part of the successful competitor; and we consequently can recommend such a position to every young man as an honorable and distinguished one. The majority of our newly made physicians will locate themselves at once, but we regret to say will soon, from want of patronage, become an easy prey to disappointment and discouragement. This, however, is the common lot of all beginners; but especially does it belong to that class who are wont to neglect hospital advantages in order to save time. Some will seek admission into our hospitals, and adopt a truly reliable plan for rendering themselves qualified for entrance into general practice. Others will take a tour through Europe, in order to follow the celebrities through their wards. The alleged advantages of foreign cities are, we are forced to believe, more imaginary than real: this is especially the case with medical students. Fresh from the lecture-room, they are totally

unprepared to appreciate their real wants, and are easily led to adopt unqualifiedly the peculiar hobby of each clinical teacher. Then again, the chances are that they will pay most attention to all those points which they will find of the least practical utility in their future career. The case, however, is vastly different with him who has been already engaged in practice, or is determined upon a specialty. In either case a definite object is in view, and the proper foundation laid for the appreciation of truly useful knowledge.

The time, however, has come when Americans should begin to look seriously at home for advantages which older cities have so long laid claim to; every physician and student especially should first improve the facilities which are offered to him by the numerous large and well regulated hospitals throughout our own country. We doubt not that many, if they should take the trouble to look it up, would be astonished at the amount and variety of disease which can be seen in our very midst. And this leads us to ask the question seriously—Why are such advantages not sought after more by those who take an interest in clinical study? The results of treatment in our Hospitals can certainly compare with the best institutions of the kind in any country. We are inclined to think that the only essential difference that exists between the mode in which clinical study is prosecuted in America, as compared with the same study in other countries, consists in our want of teachers. Teachers who are competent to give thorough and systematic courses of instruction are much needed in all our large institutions. When we have succeeded in establishing such a system there will be no want of patronage. The right men are among us; all that is needed is, that they direct their talents in this new channel.

It will, indeed, be some time, no matter what particular course the young graduate may take, before he becomes fully alive to all the toils, anxieties, responsibilities, and unrequited labors, which are our common lot. He will not, however, regret at the end the course he has taken; he will not wish his work any the less severe because his compensation has been meagre, or any the less benevolent because he received so few thanks.

THE WEEK.

One hundred of the sick and wounded of the Burnside Expedition arrived at this port last week in charge of Dr. Hitchcock, of Massachusetts. Although many were unable to walk without assistance when they started, yet so beneficial was the voyage that when they arrived here but fifteen required assistance. We have several times called attention to the importance of establishing military hospitals in the vicinity of New York for the accommodation of the sick soldiers of the north and east. Large numbers of invalided troops now crowd the hospitals in the more immediate vicinity of the seat of active military operations, who would be greatly benefited by being transported by sea to permanent hospitals, easy of access by water, located in the most salubrious district, and having all the modern improvements as regards room, ventilation, nursing, etc. The vicinity of New York affords sites for the location of military hospitals unsurpassed for healthfulness and accessibility. The banks of the Hudson, with their various elevations, afford innumerable sites where the health-giving influence of natural scenery would combine with artificial appointments in an extraordinary degree. A pavilion hospital, located on the Hudson, would do more to restore the health of our northern troops, now languishing in the temporary structures at the seat of war, than all the drugs in the country. We believe it would have been a matter of great economy, in saving of money as well as life, if Government had established permanent hospitals at such points early in the war. But the necessity for these institutions is now daily, we fear alarmingly, increasing. The active operations of the expeditionary corps on the southern coast are daily adding to the number of sick and wounded, whose convalescence will depend much, or altogether, upon the care they receive, and the conditions which surround them. And the final movement of the army of the Potomac adds tenfold weight to our suggestions. We are aware that Government has located hospitals at Philadelphia, which are fulfilling the purposes for which they were designed. But there is need of larger hospital facilities, and that need is liable at any moment to become imperative. No time should be lost to provide against these prospective wants of our army.

—

We hear from every quarter of the vast field of our military operations the warmest acknowledgments of the timely aid which the U. S. Sanitary Commission affords to our advancing armies. From Ship Island to the remotest camp in Missouri come numerous testimonials of the value of the labors of the Commission, in providing for the wants of the sick and wounded. The public alone support this arm of Government service, and it is but right that they should know of its doings. Does the Commission give to the country sufficient information of its operations? We think not. It would quicken the public feeling to know of the wants of the army at different points, and to learn how far those wants have been supplied. We believe the Commission cannot do a better act than to instruct its Secretary to furnish to the public prints some of the reports of its agents.

—

In this number we commence the publication of a series of papers on the Climate of the State of Minnesota, with particular reference to its adaptation to consumptives. The author, Dr. George Lewis, was formerly a practising physician of this city, who was compelled to relinquish a large and lucrative business on account of the development of pulmonary tuberculosis in his own person. He was led to make trial of a residence in Minnesota, and has found the influence of that climate highly beneficial. His attention having been thus directed to the peculiarities of the climate of that State, he has embodied his investigations in the papers referred to. The profession have long been in want of reliable information in regard to the alleged advantages of this climate to the consumptive. In the papers of Dr. Lewis that information will be furnished by one who brings to the investigation of the subject a discriminating mind, long accustomed to scientific studies.

—

The Legislature of the State of New York has passed the following act to prevent the adulteration of milk, and prevent the traffic in impure and unwholesome milk.

1. Any person or persons who shall sell or exchange, or expose for sale, or exchange, any impure, adulterated, or unwholesome milk, shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than fifty dollars, and if the fine is not paid shall

be imprisoned for not less than thirty days in the penitentiary or county jail, or until said fine and cost of suit shall be paid.

2. Any person who shall adulterate milk with the view of offering the same for sale or exchange, or shall keep cows for the production of milk for market, or for sale or exchange, in a crowded and unhealthy condition, or feed the same on food that produces impure, diseased, or unwholesome milk, shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than fifty dollars, and if the fine is not paid, shall be imprisoned for not less than thirty days in the penitentiary or county jail, or until said fine and cost of suit shall be paid.

3. Any person or persons who shall engage in or carry on the sale, exchange or any traffic in milk, shall have the cans in which the milk is exposed for sale or exchange, and the carriage or vehicle from which the same is vended, conspicuously marked with his, her or their names, also indicating by said mark the locality from whence said milk is obtained or produced, and for every neglect of such marking, the person or persons so neglecting shall be subject to the penalties expressed in the foregoing section of this act. But for every violation of this act, by so marking said cans, carriage, or vehicle, as to convey the idea that said milk is procured from a different locality than it really is, the person or persons so offending shall be subject to a fine of one hundred dollars or imprisonment in the penitentiary or county jail, or both, in the discretion of the court.

4. This act shall take effect immediately.

We may congratulate the people of this city that a blow has at last been struck at the iniquitous system of milk-adulteration, which has annually largely increased the mortality among children. We hope it will not be allowed to remain a dead letter on the statute books.

Reviews.

CLINICAL LECTURES ON THE DISEASES OF WOMEN AND CHILDREN. By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children, and Clinical Obstetrics, in the University of New York, etc. Seventh Edition, carefully revised. New York: William Wood, pp. 653.

THE *seventh* edition of this work has just been issued, a fact which more strongly than words attests its popularity with the profession. No medical work in our language has so rapidly run through repeated editions. But we must add to this accumulative evidence of the value of the work the announcement that it has passed through a French translation at Paris, and is now being translated into German at Vienna.

THE HALF-YEARLY ABSTRACT OF THE MEDICAL SCIENCES: No. 34. Philadelphia: Lindsay & Blakiston.

THE American edition of this semi-annual is now uniform with the London edition. It embraces a large scope of periodical medical literature, and may be regarded as a complete reflex of the advance which is made in all departments of the Medical Sciences.

M. FOUCHER, of the Hôtel Dieu, practises the following method of local anæsthesia in cases of incurved toe nail, and with, we are told, complete success:—"A ligature is tightly applied around the second phalanx of the great toe, and then lint soaked in chloroform is laid upon the nail for two or three minutes before the operation is performed. Two patients thus operated upon felt no pain, but only a slight sense of tickling."—*Brit. Med. Jour.*

BELLEVUE HOSPITAL MEDICAL COLLEGE.

VALEDICTORY ADDRESS

AT THE COMMENCEMENT OF BELLEVUE HOSPITAL MEDICAL COLLEGE.

BY PROFESSOR GEORGE T. ELLIOT.

GENTLEMEN of the Graduating Class! Brother Physicians now! Fellow Students always!—This evening's ceremony has changed your relations to our College, and given you a new social position. The hour has come when the indulgence and freedom of the simple student life must yield to the criticism and self-denial interwoven with your future labors. It is a solemn moment. The brief span of life is measured by such events—bright and roseate in anticipation—and hallowed in the past by the choicest tints of memory. Prepared by study, tested by examination, you are now enrolled in that army of the defenders of life who battle with disease in every climate, in all seasons, at all times. Bound together by the same aspirations, the same trials, the same necessities, there is no brotherhood more truly democratic, no republic where prizes more certainly reward individual effort. Your future rests with yourselves, and in that future among your proudest recollections must be those of this eventful year. A year which with all its sadness, and all its desolation, may be the harbinger of happy days, since amid the shock of revolution, the overthrow of political schemes, and the destruction of material interests, those elements of character which make the true wealth of nations are crystallizing anew in resplendent shapes which may challenge the admiration of History.

At the time when the national calamity was the greatest, at the time when the prospects of our enterprise were the gloomiest, encouraged by the Commissioners of Charity and Correction, and the Trustees—some of whose names are familiar in your mouths as household words—we laid the foundations of that college from which you now issue as the first graduating class. Confident in the future of our country, firm in our conviction that the underlying principle of all true medical education rests on the development of the student's faculties for enlightened observation—that demonstration was to the study of medicine what action is to oratory—we have been rewarded this year by the presence of an attentive, enthusiastic class of one hundred and three students, and by the best assurances of its rapid increase in the next.

Determined to deserve success, and aided by the liberality of our Trustees, we declare that our labors during the past winter presage those results which we believe must spring from the alliance of medical teaching with so vast a field for clinical demonstration.

Generous-hearted, noble New York, so busy and so powerful, receives within her gates that steady tide of Emigration, which, purifying itself by the deposit of the effete, the unfortunate, or the worthless, in living streamlets vivifies the land. The aged, the sick, the imbecile, the hopelessly depraved, borne by that mighty tide, as our own Mississippi bears in its waters foul and useless burdens (exponents of its force and susceptible of filtration), are here the objects of ceaseless care and unwearied solicitude. In the suburbs of our city, on the margin of a broad river whitened by the sails of a sleepless commerce, there may be seen the noblest range of buildings in the state, where a thousand windows sparkle in the cheering rays of the sun as they stream into wards devoted to the solace of every human woe—"Where hopeless Anguish pours his groan, and lonely Want retires to die."

You know those places well. There, in the shadow of those vast Hospitals, have you been armed for your struggle with disease. In these wards, by those bedsides, have you seen the patient application of the searching analytical laws by which we seek to discover the essentiality of disease. There you have seen the physician's triumph in success from the joy of convalescence; there you have seen his comfort after failure in the absolute proof of a correct dia-

gnosis, and the employment of the best resources at his command. "By medicine life may be prolonged, yet Death will seize the doctor too."

Your professors have carefully selected for your study cases which represent the types of disease incident to all classes, both sexes, different ages, and special contingencies. They have lifted the mask from diseases, protean in character, that you might again and again recognise the familiar features; and they have taught you to interpret that wonderful language, in which one organ when diseased appeals for aid through another which may be healthy. Passing from the curable to the incurable, from the clearly defined to the obscure, they have pointed out that which has yet baffled investigation, and have shown you with what masterly strategy and admirable appliances modern science passes on to future conquests.

It cannot be that men, educated as you have been, will falter in the strife. It cannot be that society will not reap from your labors a reward for the performance of its charitable duties. The tax-payer of New York may owe his life in a distant village to the skill acquired at the bedsides of Bellevue. Nor do the results of thorough hospital training stop with the immediate benefit to the practitioner or his patient. Where such a man goes interest is awakened, ambition aroused, routine broken, and the whole cause of education developed. Oh! may you be worthy of such a future, and look back on a life brightened by high endeavor, and honored by noble results! But never can you hope to penetrate the mysteries of disease, and worthily interpret their meaning by mere force of intellect alone. For sorrow there must be sympathy—for despair, courage—for inexperience, advice—for rashness, warning! The throbbing heart must feel that with the physician come safety and relief. In no other way will it unburthen itself. The true physician can neither be a stoic nor a puling sentimentalist. His judgment, skill, and sensibilities must go hand in hand in the light of his experience to the diagnosis of mental as of physical suffering. But how sublime, how touching a spectacle is that of humanity in all its gradations, from the throne to the hovel, swaying together, and reaching a common level before the same emotions. In the spacious halls of Windsor Castle, guarded by the best sanitary precautions of the age, the Prince Consort of England, in the prime of life, succumbed to that fever which it is the pride of sanitary science to avert; while but a moment later the throng of miners in Hartley Colliery perished from one of those accidents which no engineering skill can positively prevent, and a village became desolate. Struggling through cold courtly conventionalities the widowed Queen calls aloud to the widowed peasant, and their voices mingle in the diapason of a common lamentation. From the chamber of death, through the house of mourning, the physician daily passes to the contemplation of the purest joys which bless the pilgrimage of men. He sees the humble home illumined by the smile of a contented spirit, and finds envy enthroned amid luxurious decorations. The extremes of the social scale meet him in the same spirit. He listens to the simple recitals of magnanimous self-denial, and to the fretful whims of pampered self-indulgence. No Asmodeus ever saw society so truly as it is. No other profession ever brings man so unreservedly in contact with his fellow man at every step of life from the cradle to the grave. These influences form the character of the true physician, and make him tolerant, liberal, forgiving, humble. To him, more than to any other man, belongs the blessed privilege of explaining faults of character, not only by faults of education, but by the influences of disease so often lurking in the attributes of health. Like Ithuriel, he touches with his spear the evil spirit poisoning the brain, and reason once more resumes her sway over the troubled mind. From the study of these influences, and from the daily recognition of their effects in the sins of omission and commission, the physician sees further than others can possibly be expected to see into the grand mystery which surrounds the reconciliation of Infinite Justice with Infinite Mercy. For the honor of human nature be it said, that no man, conscious of his own failings, can long pursue such a study without being purified from misanthropic tendencies, and humbled by the recognition of so many noble qualities surviving the trials and temptations of life.

Educated as you have been for your career, you commence your labors with an appreciation not only of the types of disease, but of their intimate associations and reciprocal influence on the habits and characters of men. The laws which will guide you in the future now stand clear and sharply defined in the light of their recent interpretation. How shadowy will they often seem when personal responsibility, physical exhaustion, harassing doubts wrap them as in a cloud; and perchance dishearten you as they have disheartened so many others. Ah! those first weary, anxious years of professional life, what touchstones they are for professional worth! They bear the germ of your destiny. Those plastic elements from which you must shape your own future lie there ready for your hand. Courage, patience, the love of doing good, and an honorable ambition, must cheer and spur you to a task, which will often seem fruitless, often unthankful, and never greatly remunerative. Nor will half measures suffice. Merely to keep the single talent there is as reprehensible as in the parable. Believe not that any profession is overcrowded. It were better that every profession were weeded; but talent, energy, and education will make their way now as they have in the past and will in the future. They will be welcomed now as ever, after they have sustained a careful scrutiny; they will be dreaded now as ever, for human nature is always the same. Do not believe in the cant which whines over an asserted lack of opportunity, and slanders another's success. A large practice, a great hospital, a professorship, are not necessary for the highest rewards of our profession. The simple, truthful cases of Smellie, observed in a limited country circle, will live on the record; Sydenham had not a little of the advantages which have done so little for so many. Opportunities sooner or later will come to all of you, but some may be heedless, others unprepared. The period of anticipation is never too long if passed in preparation; and many a brilliant career in our profession has dated from an occasion when merit disclosed itself without thought or hope of reward.

It is told of Dieffenbach, the great practical surgeon of his day in Prussia, that his masterly performance of the operation for strangulated hernia, alone, unassisted, in the night, by the dim light of an uncertain candle, on the most miserable of a miserable class, was the immediate cause of his advancement. A gentleman of rank and position, stopping to inquire his way, saw the young man triumphing over all his disadvantages, cool, skilful, self-reliant, and found him fitted for any position.

How many illustrations of these truths might this very audience afford! Would not their collective experience warn you rather against the dangers of too hasty professional success than of prolonged preparation?

You are entering on a new era in the medical history of our country. The prizes are sought by a greater number of educated men; and the truth is fully recognised that solid success needs the stamp of professional approbation. The different languages, and the various schools of Europe, are represented here; and hence, the interchange of opinion, and the comparison of results, must quicken endeavor, and predestine an alliance of erudition with American fertility of expedients full of promise for the future.

As you pass on to take your places in the arena, and are lost for a time amid the throng, believe that the heartfelt sympathy and confident hopes of this faculty accompany your steps; and that your alma mater awaits the glad tidings of your success as her greatest reward. You, the first born, must labor for her interests and encourage us to develop these advantages which will further the best interests of medical education. You and we advocate the principle to which this college owes its existence, and be-

lieve that the steady centralization of medical schools in cities, and the growing demand for bedside training, called imperatively for that intimate association of didactic with *true* clinical instruction offered in the Bellevue Hospital Medical College. Such results as have already attended the enterprise warrant our belief that it has helped to supply a professional want.

And now farewell! How dimly are the thoughts suggested by this parting mirrored by these imperfect sentences. But language is but the exponent of feeling, a dull register of that electric flash which leaps from heart to heart. The intimate associations of the winter have culminated this evening, and there is a bond between us for ever. May our college, our profession, our country unite in applauding some discovery, some trait of character which may make us all proud of our association with this class. And in addition to those rewards of professional life, of which alone it befits me to speak, may self-examination lead you to hope that both your thoughts and your actions may meet the approval of the Great Physician!

Farewell!

Correspondence.

CHLOROFORM IN MIDWIFERY.

[To the Editor of the American Medical Times.]

Sir:—The discussion on Dr. Fordyce Barker's Memoir on the Use of Anæsthetics in Midwifery, as well as the memoir itself, have excited much interest in Europe; agreeing, as all the observations do, in a large degree, with what experience has taught us on the same subject, at this side of the Atlantic.

It is possible that the dangers of chloroform loom too largely through the heated atmosphere of modern discussion, and that the great prominence given, and possibly rightly given, to deaths from chloroform, in newspapers and journals, has had some effect in diminishing the usefulness of this most admirable agent. Dr. Detmold, like my late impulsive friend, Dr. Lever, of Guy's, thinks our mothers and grandmothers did very well without chloroform, and so ought the ladies of the present day; but the former did very well without vaccination, and telegraphs, and railways; would Dr. Detmold advise us to copy them also in those things, for the argument only amounts to that? Accidents from railways are quite as frequent—if not more frequent—than accidents from chloroform, whilst in midwifery there has not been a single well attested accident from anæsthetics.

The "cardiac syncope" of the schools, with engorgement of the right side of the heart—which is supposed in the public mind to be the frightful cause of all the accidents—is not cardiac syncope at all, no more than the great fact is a fact that we are going to have a great war with America about Mason and Slidell; as the latter fancy still pleases some persons, so the cardiac syncope dogma holds its ground in our leading London medical journals. The public have got the idea, and it answers best, what with artificial tympanums, chlorodyne, railway commissions, adulterations of mustard or water-cresses, or any half-dozen stolidities or quackeries of sanitary science in the book-publishing trade—not to run counter to the old ideas of heart-disease and chloroform. Cardiac syncope, as formerly described, is now found to be in fact a post-mortem change. It is not syncope, because the heart fails; it is engorgement, because the heart is the last to fail. But the book-publishing reviewers are instructed, that all the old books with heart-disease as their refrain must be first sold before the new ideas are spread abroad. In midwifery, one single death from chloroform, with a coroner's inquest, would enlist all the shut-up thunders of the *Lancet*, or in New Burlington street send up the sale of all old chloroform books fifty per cent.; in other words, what appears in London journals, or manuals, does not at all represent the feeling in hospitals, or in midwifery practice, in the experience of Europe generally on chloroform. If it is sternly held that chloroform kills like bullets in battle, that all the deaths are from diseased heart, and that there has been not a single accident from ether, it is easy to see how public prejudice must grow against chloroform; yet the remarks of Dr. Elliot, fully corroborated by the later ideas of my late friend Dr. Snow, in London, as to heart-disease, show very clearly what a bugbear heart-disease has been. The experience of Dr. Barker, Dr. Elliot, etc., as to spasmodic rigidity, use of forceps, puerperal convulsions, and version cases, quite agrees with that of the best men in England, such as Dr. Tyler Smith, Dr. Murphy, the late Dr. Rigby, etc., as well as with the views held by my friend Professor Simpson, of Edinburgh, and Dr. Churchill, of Dublin. As to chloroform in forceps cases, Dr. Gardner's remarks are excellent; forceps cases are like lithotomy cases, where Mr. Fergusson and other good surgeons now use chloroform; though a short time ago, and for the same reason as in forceps cases it was withheld; but this is all changed.

The only point of marked difference between the experience of America and of Europe in obstetrics is, as to the liability to *post-partum* hæmorrhage; here, in Europe, we scarcely agree with what Dr. Gardner has found; at the same time it may be explained in this way, that more recently we have discovered that ergot (and in large doses too) may be used with advantage, along with, or after chloroform, though half a dozen years ago they were looked on in some measure as incompatibles. This, indeed, may be one of the points where chloroform dangers have "loomed" too largely in discussions of some bookish men, and whilst every kind of known quackery, every patent drug of the chlorodyne or sugar-coated pills' kind, every kind of medicine-made-popular style of book is encouraged by London publishers. Chloroform is still fighting a direful battle with popular prejudice on one hand, and the cold water thrown on anæsthetics by such editors and publishers on the other. Yours, etc.,

Charles Kidd, M.D.

Sackville Street, London.
Feb. 20, 1862.

UNCONTROLLABLE VOMITING AFTER CHLOROFORM.

[To the Editor of the American Medical Times.]

Sir:—The following case brings out a feature in the use of anæsthetics that has not met with much attention:—

A short time ago I was called to a neighboring town in consultation to a case of arm presentation. Four physicians had been in attendance, and were exhausted with attempts to perform version; the patient being under the influence of chloroform. I found she had inhaled a good deal, the administration of the article having been kept up for several hours. I therefore objected to its further use until the operation of turning was carried far enough to cause pain. With considerable care and difficulty I succeeded in bringing down the feet, and after some time completed the delivery. The arm had been amputated at the elbow before my arrival, and as Churchill remarks, it was no advantage, as I fully proved during my work. The placenta was removed without any trouble. An anodyne cordial was administered, and I left the woman apparently strong and comfortable. I was informed by the medical attendant, the next time I met him, that the patient was attacked with vomiting which could not be restrained, brought on by, as he thought, the chloroform, and she ultimately died from exhaustion. He could not detect any other cause for her death. Does chloroform ever induce such unmanageable vomiting? What do Dr. Barker and others say on this point?

Yours, etc.,

J. H. Pooley, M.D.

Dobb's Ferry, Feb. 28, 1862.